1 What are found in both mitochondria and typical prokaryotic cells?

A 70S ribosomes and circular DNA

B 70S ribosomes only

C 80S ribosomes and circular DNA

D circular DNA only

2 Which statements about light microscopes are correct?

1 To calculate the magnification of a light microscope the eyepiece lens and objective lens magnifications are added together.

2 As the magnification increases the resolution decreases.

3 The resolution of a light microscope is limited by the wavelength of light.

4 The scale on a stage micrometer is resolved more clearly than an eyepiece graticule.

A 1, 2, 3 and 4

B 1, 3 and 4 only

C 2 and 3 only

D 2 and 4 only

1 Which feature is found in both prokaryotic and plant cells?

A cell wall

B DNA bound to protein

C endoplasmic reticulum

D Golgi apparatus

2 What leaves the nucleus through the pores in the nuclear envelope?

1 DNA

2 mRNA

3 ribosomes

A 1 only

B 2 only

C 1 and 2

D 2 and 3

3 The same plant cells were viewed by a student using an electron microscope and a light microscope.

The electron microscope used a magnification of ×1000.

The light microscope used a ×10 eyepiece lens and a ×100 objective lens.

The student concluded that the image of the plant cell obtained using the electron microscope was clearer and more detailed than the image obtained using the light microscope.

Which explanation supports this conclusion?

A The electron microscope had a poorer resolution than the light microscope, but was better able to distinguish between two separate points.

B The magnification used in the two microscopes was the same, but the electron microscope had a better resolution than the light microscope.

C The student used the electron microscope at a higher magnification than the light microscope which led to an improved resolution.

D The two microscopes had the same resolution, but the magnification used in the electron microscope gave an image that was ten times larger than the light microscope.

BY MS HADIQA NOOR (AS LEVEL)

1. The statements below are about light microscopes.

1 As the magnification increases the resolution decreases.

2 The resolution of a light microscope is limited by the wavelength of light.

3 To calculate the magnification of a light microscope the eyepiece lens and objective lens magnifications are added together.

4 The scale on a stage micrometer is resolved more clearly than an eyepiece graticule.

Which statements are correct?

A 1 and 2 B 1 and 4

C 2and3 D 3 and 4

1 What best describes an electron microscope in comparison with a light microscope?

	magnification	resolution
A	higher	higher
B	higher	lower
C	lower	higher
D	lower	lower